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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,008	08/22/2003	Sung-Jae Moon	YOM-0048	8963
<div>7590 Cantor Colburn LLP 55 Griffin Road South Bloomfield, CT 06002</div>			<div>EXAMINER NGUYEN, HOAN C</div>	
			<div>ART UNIT 2871</div>	<div>PAPER NUMBER</div>
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/30/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/646,008	<b>Applicant(s)</b> MOON, SUNG-JAE	
	<b>Examiner</b> HOAN C. NGUYEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-10,13-15 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-10,13-15 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Claims 6, 11-12, 15-17 and 23-25 are cancelled.

Examiner would like to thank applicants to clarify Fig. 3A and 6. However, Fig. 6 is an enlarged view of driving signal wire and shorting bar of Fig. 3A, but both two Fig. 3A and 6 still assign **the different designated numbers for the same elements**, examples:

- “driving signal wire” in Fig. 3A assigns with the designated numbers 321-322, but in Fig. 6, “driving signal wire” assigns with the designated numbers 132.
- “shorting bar” in Fig 3A assigns with the designated 320, but in Fig. 6 “shorting bar” assigns with the designated 130.

Furthermore, Fig. 3A still assigns **the same designated numbers for different elements**, examples: both the “first driving signal wire” and “second driving signal wire” assigned the same designated number 132; and both the “first connecting line” and “second connecting line” assigned the same designated number 94.

These designed numbers cause the confusion to exam the application. To avoid such confusion, please provide the Figures with assigning the different designated numbers for each of different elements. Do not assign the same number for different elements or do not assign the different numbers for the same element and be consistent the used designated numbers through all inventive drawings.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-5, 7-10, 13-15 and 18-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the response, applicants confirm in REMARK that:

- The first display signal wires are the gate lines 121 in Fig. 3
- The first driving signal wire is the lower/right gate driving signal line/wire 132; the first connecting line is the shorter/upper connecting member 94 in Fig. 6. The first driving signal wire 132 connected to the first display signal wire 121 by the first connecting line to transmit driving signals for first display wires 121.
- The second driving signal wire is the upper/left gate driving signal line/wire 132; the second connecting line is the longer/lower connecting member 94 in Fig. 6. The second driving signal wire 132 connected to the first display signal wire 121 by the second connecting line to transmit driving signals for first display wires 121.
- "a part" of the first display signal wire considered as those first display signal lines 121 connected to the first connecting line that is the longer/lower connecting member 94.

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- “another part” of the first display signal wire considered as those first display signal lines 121 connected to the second connecting line that is the shorter/upper connecting member 94.

Claim 1 cited:

- “first connecting lines disposed between the first driving signal wire and a part of the first display signal wire 121, and connected to the first driving signal wire”.
- “wherein the first connecting lines are electrically disconnected from the part of the first display signal wire.”

Fig. 6 shows the first connecting lines (the shorter/upper connecting member 94) disposed between the first driving wire and the first display signal wire 121, which connects to the first connecting lines (see attachment 1, shaded by blue pen).

Therefore, a part of the first display signal wire must be connects to the first connecting lines (the shorter/upper connecting member 94). The first connecting line (the shorter/upper connecting member 94) cannot be in between the first driving wire (shaded by blue pen) and the first display signal wire (shaded by red pen), which does not connect to the first connecting line.

Claim 9 cited:

- “second connecting lines disposed between the first driving signal wire and a another part of the first display signal wire 121, and connected to the second driving signal wire.”

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- “wherein the second connecting lines are electrically disconnected from the another part of the first display signal wire.”

Fig. 6 shows the second connecting line (the longer/lower connecting member 94) disposed between the second driving signal wire and the first display signal wire 121, which connects to the second connecting line (see attachment 1, shaded by red color pen). Therefore, another part of the first display signal wire must be connects to the second connecting line. The second connecting line (the longer/lower connecting member 94) cannot be in between the second driving wire (shaded by red pen) and the first display signal wire (shaded by blue pen), which does not connect to the first connecting line.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 7-15 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Imajo et al. (US2001/0015709).

Imajo et al. teach (Figs. 34-37) a liquid crystal display device comprising:

#### Claim 1:

- a liquid crystal panel including

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- a first display signal wire having a plurality of a first display signal lines (drain lines DL),
- a second signal wire having a plurality of a second display signal lines (gate lines GL) that cross the first display signal lines,
- a plurality of switching elements (in abstract) each of which is connected to both of one of the first display signal lines and one of the second display signal lines, and
- pixel electrodes (in abstract) connected to the switching elements;
- a first driving signal wire transmitting driving signals for the first or second display signal lines as Fig. 26 shown (see attachment 2), wherein the first driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a first pad connected thereto at its near end (at connection);
- a plurality of first connecting lines (see attachment 2) disposed between the first driving signal wire and a part of the first display signal wire DL, and connected to at least one of the first driving signal wire and the part of the first display signal wire.

Claims 2-4:

- a plurality of drivers respectively connected to the first driving signal wire, wherein each of the drivers is in the form of a chip (IC1/IC2) and each of the drivers is formed on the liquid crystal panel as Fig. 35 shown.

Claim 7:

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- a second driving signal wire transmitting driving signals for the first or second display signal lines as Fig. 26 shown (see attachment 2), wherein the second driving signal wire is separated from the first and second display signal wires, the switching elements, and the pixel electrodes, and includes a second pad connected thereto at its near end (at the connection).

Claim 14:

- a shorting bar (short-circuit line/common line ST shown in Fig. 26) connected to the first driving signal wire DL.

wherein

Claim 5:

- each of the drivers is directly connected to the first driving signal wire as Fig. 35 shown.

Claim 8:

- a distance between the first driving signal wire and the first display signal wire is smaller than a distance between the second driving signal wire and the first display signal wire as Fig. 35 shown.

Claim 9:

- a plurality of second connecting lines disposed between the second driving signal wire and at least another part of the second display signal wire, and connected to at least one of the second driving signal wire and the another part of the second display signal wire.

Claim 10:



- the first and second connecting lines are alternately disposed as Fig. 26 shown (wherein connecting lines connect to BP outside and inside alternately).

Claim 11:

- one end of the connecting line is connected to the first display signal wire (DL), and another end thereof is connected to the first driving signal wire via IC.

Claim 12:

- the first connecting line comprises two sections that are electrically separated each other, and the two sections are respectively connected to the first display signal wire (DL) and the first driving signal wire via IC.

Claim 13:

- the first connecting line is electrically connected to the first display signal wire (DL) and the first driving signal wire via IC.

Claim 15:

- the first driving signal wire further comprises a plurality of second pads connected at PAD-A thereto at its intermediate portion.

Claim 18:

- the first driving signal wire extends to an edge of the panel.

Claim 19:

- the first display signal wire transmits gate signals for inherently turning on and off the switching elements, and the second display signal wire transmits data signals for the pixel electrodes applied through the switching elements.

Claim 20:

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- the first driving signal wire (data lines DDL/DGL and power supply lines PWL) .  
transmits a gate-off voltage or a ground voltage (paragraph 133).

Claims 21-22:

- the first display signal wire transmits data signals for the pixel electrodes, and the second display signal wire controls inherently turning on and off of the switching elements such that the transmission of the data signals to the pixel electrodes is controlled, wherein the first driving signal wire transmits gray voltages, a clock signal, or a driving voltage to the drivers (paragraph 132).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOAN C. NGUYEN  
Examiner  
Art Unit 2871

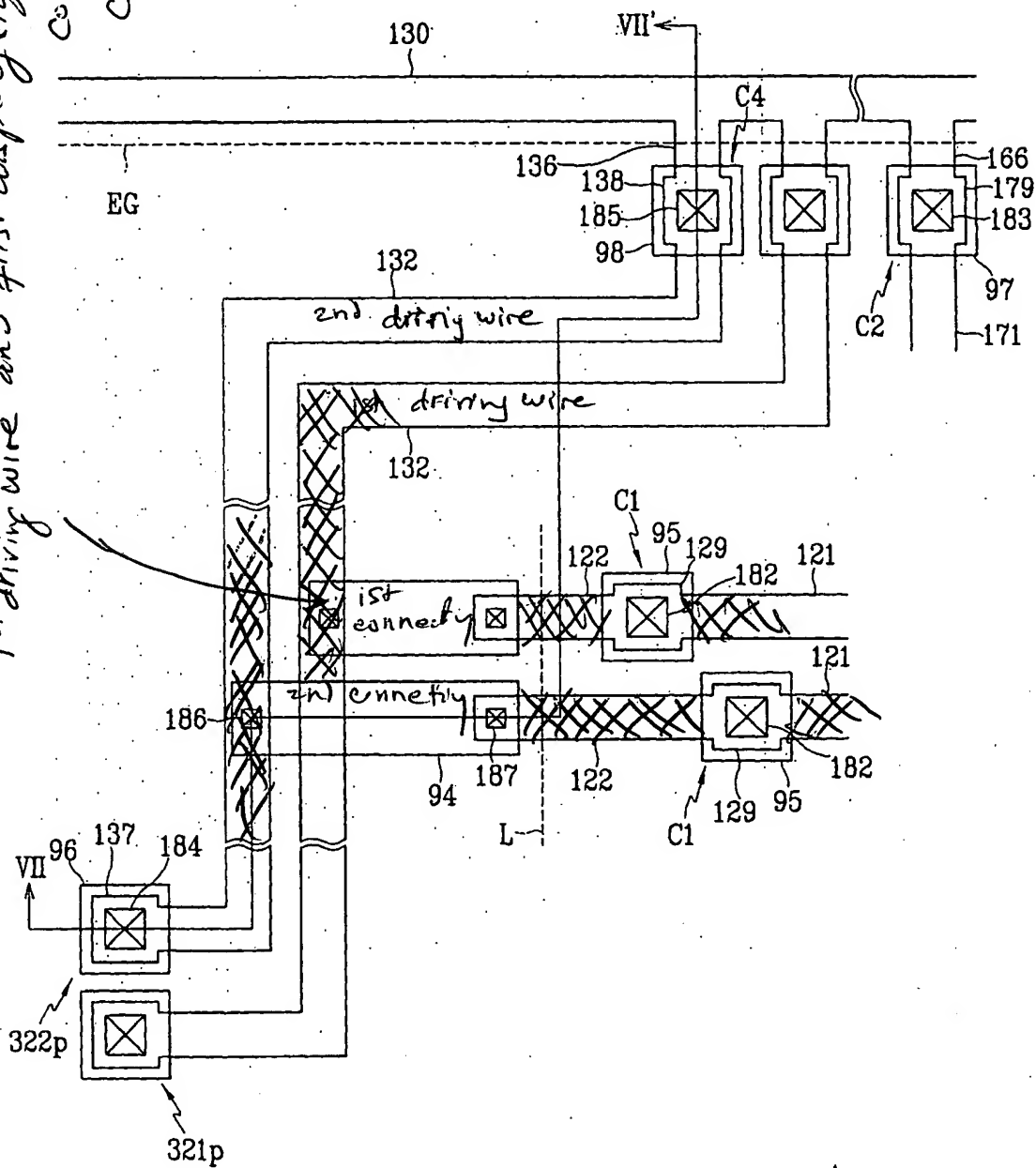
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ANDREW SCHECHTER  
PRIMARY EXAMINER

# Attachment 1

FIG. 6

1<sup>st</sup> connecting line disposed between  
1<sup>st</sup> driving wire and first display signal wire, which  
connects to 1<sup>st</sup>  
connecting line



# Attachment 2

